CLAIMS

What is claimed is:

1. An anti-theft device for a bicycle comprising a bicycle frame and a steering column for steering the bicycle, mounted on the bicycle frame, which steering column rotationally fixedly couples a bicycle handlebar with a fork for a front wheel, said device comprising:

a separating means for neutralising the rotationally fixed coupling, which separates the steering column into two parts and produces the rotationally fixed coupling of these steering column parts when in a first state and neutralises it when in a second state.

2. The anti-theft device of claim 1, wherein the separating means has a substantially reflection-symmetrical or point-symmetrical construction and on either side of the plane of symmetry has recesses and/or projections, which in the first state engage with complementary means constructed on the steering column parts and in so doing make a form-fit and/or frictional connection and in the second state are released from the complementary means.

3. The anti-theft device of claim 18, wherein the coupling piece comprises a column piece, which in the first state is inserted between the steering column parts and aligns with them, and which in the second state is completely removed from the steering column parts.

4. The anti-theft device of claim 3, wherein the column piece is housed in two coupling sleeves disposed axially next to one another and comprising external threads which are in each case provided for an engagement in a corresponding internal thread in the respective adjacent section of the bicycle frame.

5. The anti-theft device of claim 4, wherein the threads are multiple start.

6. The anti-theft device of claim 4, wherein the thread pitch is sufficient to achieve an axial displacement by a predetermined insertion length of the respective coupling sleeve with at most one revolution of each coupling sleeve around the column piece.

7. The anti-theft device of claim 6, further comprising a protecting tube for housing the column piece and the coupling sleeves, which is detachable from the bicycle frame and which comprises axially displaceable carriers, which upon a rotation of the protecting tube entrain the coupling sleeves.

8. The anti-theft device of claim 7, wherein the carriers are radial pins, which protrude outwardly through at least one axial slot in the protecting tube and which in each case engage with one of the coupling sleeves.

9. The anti-theft device of claim 19, wherein the connecting element has an annular or frame-shaped construction with engagement bars, which are provided for the engagement with claws of the steering column parts in the first state and which move from the first state into the second state by a rotational movement of the connecting element around a center axis thereof at preferably right angles to an axis of the steering column.

10. The anti-theft device of claim 9, wherein, in the second state, the connecting element with the steering column can be removed therefrom or inserted therein, through an opening in the wall of the bicycle frame.

11. The anti-theft device of claim 10, wherein the connecting element comprises an individual profile which can be brought into engagement with a complementary profile on the claws, on a section of the engagement bars that faces the center axis.

12. The anti-theft device of claim 11, wherein the engagement bars are separated from one another, are radially displaceable with respect to the center axis and can be brought into engagement with locking recesses in the steering column parts.

13. The anti-theft device of claim 11, wherein the engagement bars form an inner ring, which is surrounded by an outer ring comprising locking bars which are separated from one another by the formation of end faces and in each case are displaceably mounted on the associated engagement bar of the inner rings, and which also comprises expansion elements rotatably mounted around the center axis between the end faces of the locking bars for pushing apart the locking bars against an initial stress.

14. The anti-theft device of claim 13, wherein a cross-sectional profile of the expansion elements has a substantially rectangular construction, in a plane through which the center axis passes at right angles.

15. The anti-theft device of claim 14, wherein the sides of the cross-sectional profile of the expansion elements have a concave construction.

16. ~~A bicycle having a bicycle frame~~ and a steering column mounted on ~~the bicycle~~ frame for steering the bicycle, which is provided for a ~~rotationally~~ fixed coupling of a bicycle handlebars with a fork for a front wheel, ~~characterized by~~ an anti-theft device.

17. A vehicle with a ~~steering~~ column for steering the vehicle, which for a rotationally fixed coupling of a control mechanism is provided with a controllable steering mechanism, ~~characterized by an anti-theft device.~~

18. The anti-theft device of claim 1, wherein the separating means is a coupling piece.

19. The anti-theft device of claim 1, wherein the separating means is a connection element.

20. The anti-theft device of claim 5, wherein the thread pitch is sufficient to achieve an axial displacement by a predetermined insertion length of the respective coupling sleeve with at most one revolution of each coupling sleeve around the column piece.

21. The anti-theft device of claim 20, further comprising a protecting tube for housing the column piece and the coupling sleeves, which is detachable from the bicycle frame and which comprises axially displaceable carriers, which upon a rotation of the protecting tube entrain the coupling sleeves.

22. The anti-theft device of claim 7, wherein the carriers are radial pins, which protrude outwardly through at least one axial slot in the protecting tube and which in each case engage with one of the coupling sleeves.

23. The anti-theft device of claim 14, wherein the cross sectional profile has rounded corners.

24. The bicycle of claim 16, wherein the anti-theft device is the device of claim 15.

25. The bicycle of claim 16, wherein the anti-theft device is the device of claim 22.

26. The vehicle of claim 17, wherein the anti-theft device is the device of claim 15.

27. The vehicle of claim 17, wherein the anti-theft device is the device of claim 22.

Claims

1. An anti-theft device for bicycles, which comprise a bicycle frame (2) and a steering column (14) mounted on the bicycle frame (2) for steering the bicycle, which steering column is provided for a rotationally fixed coupling of bicycle handlebars (6) with a fork (5) for a front wheel (4), having a separating means for neutralising the rotationally fixed coupling, **characterised in that** a coupling piece (8) or a connection element (60) is provided as separating means, which separates the steering column (14) into two parts (14) and produces the rotationally fixed coupling of these steering column parts (34) in a first state and neutralises it in a second state.

2. An anti-theft device according to Claim 1, **characterised in that** the coupling piece (8) or the connecting element (60) has a substantially reflection-symmetrical or point-symmetrical construction and on either side of the plane of symmetry has recesses and/or projections, which in a first state engage with complementary means constructed on the steering column parts (34) and in so doing make a form-fit and/or frictional connection and in a second state are released from the complementary means.

3. An anti-theft device according to Claim 2, **characterised in that** the coupling piece (8) comprises a column piece (22), which in the first state is inserted between the parts (34) of the steering column (14) and aligns with them, and which

in the second state is completely removed from the parts (34) of the steering column (14).

4. An anti-theft device according to Claim 3, **characterised in that** the column piece (22) is housed in two coupling sleeves (224) disposed axially next to one another and comprising external threads (25) which are in each case provided for an engagement in a corresponding internal thread (27) in the respective adjacent section of the bicycle frame (2).

5. An anti-theft device according to Claim 4, **characterised in that** the threads (25, 27) are multiple start.

6. An anti-theft device according to Claim 4 or 5, **characterised in that** the thread pitch is sufficient to achieve an axial displacement by a predetermined insertion length of the respective coupling sleeve (24) with at most one revolution of each coupling sleeve (24) around the column piece (22).

7. An anti-theft device according to Claim 6, **characterised by** a protecting tube (28) for housing the column piece (22) and the coupling sleeves (24), which is detachable from the bicycle frame (2) and which comprises axially displaceable carriers (30), which upon a rotation of the protecting tube (28) entrain the coupling sleeves (24).

8. An anti-theft device according to Claim 7, **characterised in that** the carriers (30) are constructed as radial pins, which protrude outwardly through at least one axial slot (32) in the protecting tube (28) and which in each case engage with one of the coupling sleeves (24).

9. An anti-theft device according to Claim 2, **characterised in that** the connecting element (60) has an annular or frame-shaped construction with engagement bars (70), which are provided for the engagement with claws (62) of the steering column parts (34) in the first state and which move from the first state into the second state by a rotational movement of the connecting element (60) around its centre axis (64) at preferably right angles to the axis (36) of the steering column (14).

10. An anti-theft device according to Claim 9, **characterised in that** in the second state through an opening in the wall of the bicycle frame section the connecting element (60) with the steering column (14) can be removed therefrom or inserted into it.

11. An anti-theft device according to Claim 10, **characterised in that** on a section of the engagement bars (70) facing the centre axis (64) the connecting element (60) comprises an individual profile (67) which can be brought into engagement with a complementary profile (68) on the claws (62).

12. An anti-theft device according to Claim 11, **characterised in that** the engagement bars (70) are separated from one another, are radially displaceable with respect to the centre axis (64) and can be brought into engagement with locking recesses (84) in the steering column parts (34).

13. An anti-theft device according to Claim 11, **characterised in that** the engagement bars (70) form an inner ring, which is surrounded by an outer ring comprising locking bars which are separated from one another by the formation of end faces (90) and in each case are displaceably mounted on the associated engagement bar (70) of the inner ring, and which also comprises expansion elements (78) rotatably mounted around the centre axis (64) between the end faces (90) of the locking bars (72) for pushing apart the locking bars (72) against an initial stress.

14. An anti-theft device according to Claim 13, **characterised in that** in a plane through which the centre axis (64) passes at right angles, the cross-sectional profile of the expansion elements (78) has a substantially rectangular construction, preferably with rounded corners.

15. An anti-theft device according to Claim 14, **characterised in that** the sides of the cross-sectional profile of the expansion elements (78) have a concave construction.

16. A bicycle having a bicycle frame (2) and a steering column (14) mounted on the bicycle frame (2) for steering the bicycle, which is provided for a rotationally fixed coupling of bicycle handlebars (6) with a fork (5) for a front wheel,
characterised by an anti-theft device according to one of the preceding Claims.

17. A vehicle with a steering column for steering the vehicle, which for a rotationally fixed coupling of a control mechanism is provided with a controllable steering mechanism,
characterised by an anti-theft device according to one of Claims 1 to 15.

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